

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant:	Santeri Anttalainen, et al.	§	Group Art Unit:	2617
		§		
Application No:	10/595,140	§	Examiner:	Manoharan, Muthuswamy Ganapathy
		§		
Filed:	March 3, 2006	§	Confirmation No:	3295
		§		
Attorney Docket No: P17183-US1				
Customer No.: 27045				

For: Method of controlling a communication control entity

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Date: August 26, 2011

Name: Melissa Rhea

Signature: /Melissa Rhea/

**APPEAL BRIEF**

This Brief is submitted to appeal the rejection of claims 1-3 and 5-6, which are all of the pending claims in this application, as presented by the Primary Examiner in a Non-Final Office Action dated April 28, 2011. A prior appeal was filed on January 18, 2011, to appeal the decision of the Primary Examiner set forth in an Official Action dated August 12, 2010 (paper number 20100812), having rejecting claims 1-3 and 5-6 at least twice. Rather than answer that appeal, the Examiner has now re-opened prosecution and issued a new basis of rejection; the Applicants appeal the new basis of rejection.

Whereas fees for a Notice of Appeal fee and Appeal Brief were paid for the previously-filed appeal, no new fees are due.

**I. Real Party in Interest**

The real party in interest is Telefonaktiebolaget LM Ericsson (publ), a Swedish corporation, with its principal office at SE-164 83 Stockholm, Sweden.

**II. Related Appeals and Interferences**

A prior appeal was filed on January 18, 2011, to appeal the decision of the Primary Examiner set forth in the Official Action dated August 12, 2010 (paper number/Mail date 20100812), having rejected claims 1-3 and 5-6 at least twice. Rather than answer that appeal, the Examiner re-opened prosecution and issued a new basis of rejection in an office action dated April 28, 2011, the Applicants now appeal the new basis of rejection. A copy of the Applicant's prior appeal brief is submitted herewith in the Related Proceedings Appendix for the board's convenience.

**III. Status of Claims.**

Claims 1-3 and 5-6 are pending in the present application, which are twice rejected and form the basis for this Appeal. Claims 1-3 and 5-6, including all amendments to the claims, are attached in the Claims Appendix.

**IV. Status of Amendments.**

No Amendments or responses have been filed subsequent to the non-final rejection dated August 20, 2010. The claims set out in the Claims Appendix include all entered amendments.

**V. Summary of Claimed Subject Matter.**

Claim Element	Specification Reference
1. A method of controlling a communication control entity in a communication control part of a mobile communication network that comprises a communication control part and an access part, said communication control entity acting as a primary communication entity	Throughout the Specification, including: page 6, line 1 to page 7, line 7

for a call communication and belonging to a pool of communication control entities among which no handover procedure is conducted as long as a mobile communication device moves among service realms associated with a predetermined number of access control entities that are connected to said pool, said method comprising the steps:	
receiving a handover request for removing a first secondary communication control entity from a control process for controlling said call communication and adding a second secondary communication control entity	Throughout the Specification, including: page 6, line 1 to page 7, line 7
determining whether said second secondary communication control entity belongs to said pool, and if said second secondary communication control entity belongs to said pool,	Throughout the Specification, including: page 6, line 1 to page 7, line 7
rejecting said second secondary communication control entity to said control procedure and instead communicating directly by said communication control entity with the mobile communication device of which said given call communication is being controlled via an access control entity connected to said primary communication control entity without utilizing any secondary communication control entity as a relay.	Throughout the Specification, including: page 6, line 1 to page 7, line 7

Claim Element	Specification Reference
5. (Previously Presented) A communication control entity for a communication control part of a mobile communication network that comprises said a communication control part and an access part, said communication control entity belonging to a pool of communication control entities among which no handover procedure is conducted as long as a mobile communication device moves among service realms associated with a predetermined number of access control entities that are connected to said pool, and being arranged to act as a primary communication entity for a	Throughout the Specification, including: page 7, line 26 through page 8, line 12

given call communication, wherein said communication control entity comprises	
a processor, which, when said communication control entity is acting as a primary communication control entity and when a handover request for removing a first secondary communication control entity from the control process and adding a second secondary communication control entity is received, the processor is arranged to	Throughout the Specification, including: page 7, line 26 through page 8, line 12
determine whether said second secondary communication control entity belongs to said pool, and if said second secondary communication control entity belongs to said pool, controlling said communication control entity to directly communicate by said communication control entity with the mobile communication device of which said given call communication is being controlled via an access control entity connected to said communication control entity without utilizing any secondary communication control entity as a relay.	Throughout the Specification, including: page 7, line 26 through page 8, line 12

Claim Element	Specification Reference
6. (Previously Presented) A system for controlling a communication control entity in a mobile communication network, the system comprising:	Throughout the Specification, including: page 7, line 26 through page 8, line 12; page 8, lines 14-31
a communication control part having a pool of communication control entities;	Throughout the Specification, including: page 7, line 26 through page 8, line 12; page 8, lines 14-31
a mobile communication device moving among service realms associated with a predetermined number of access control entities that connect to the pool;	Throughout the Specification, including: page 7, line 26 through page 8, line 12; page 8, lines 14-31
a primary communication control entity of the pool of communication control entities that controls a call by the mobile communication device in the mobile communication network; wherein the primary communication control entity, upon receiving a handover request for removing a first secondary communication	Throughout the Specification, including: page 7, line 26 through page 8, line 12; page 8, lines 14-31

control entity from a control process of the call and adding a second secondary communication control entity, having:	
means for determining whether the second secondary communication entity belongs to the pool; and	Throughout the Specification, including: page 7, line 26 through page 8, line 12; page 8, lines 14-31
upon determining that the second secondary communication control entity belongs to the pool, means for communicating directly by the primary communication	Throughout the Specification, including: page 7, line 26 through page 8, line 12; page 8, lines 14-31

The specification references listed above are provided solely to comply with the USPTO's regulations regarding appeal briefs. The use of such references should not be interpreted to limit the scope of the claims to such references or to limit the scope of the claimed invention in any manner.

## **VI. Grounds of Rejection to be Reviewed on Appeal.**

### **Issue**

The issue presented for this appeal is whether claims 1-3, and 5-6 are properly rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 6,097,951 to Ernam et al (hereinafter Ernam).

## **VII. Argument**

### Claims 1-3, 5 and 6 are not anticipated by Ernam under 35 U.S.C. § 102(b):

The Examiner, in a final office action dated November 11, 2008, and an Advisory Action dated February 4, 2009, rejected the current claims as being unpatentable over the Ernam reference in view of Brudos, et al. (hereinafter Brudos) (US 6505050). In response to the Advisory Action a Pre-Appeal Brief was filed, dated March 12, 2009 and a decision was received June 25, 2010, indicating that the prosecution was reopened and a new Office Action was to be mailed. The new, Non-Final Office Action, dated August 17, 2010 was subsequently mailed to the Applicant rejecting the claims under 35 U.S.C. § 102(a) as being anticipated by the Ernam reference. However, as noted

above, in the previous office action all the claims were rejected as being obvious over Ernani in view of the Brudos reference.

After reviewing the current rejection, the Applicant respectfully submits that the Examiner has not provided a prima facie case of anticipation as required in MPEP 2131, that is, all the elements of a claim must be found in a single prior art reference.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claims.

The Applicant respectfully asserts that there is insufficient support for the rejection of independent claims 1, 5, 6 and dependent claims 2 and 3. The Applicant believes the Examiner has failed to provide prior art that teaches or suggests all of the claim elements in the independent claims.

The Applicant's invention relates to avoiding unnecessary handoff procedures by controlling a communication control entity (a random MSC in a pool of MSCs). Previous procedures operated as depicted in Figures 1a and 1b of the present invention. Referring to the Specification, the Applicant uses Figure 1b to illustrate operation of handoffs in MSC pools. "Figure 1b shows an example where mobile telephone 3 has moved to service realm 106, which is associated with access control entity 116. Access control entity 116 is connected to communication control entity 124 via a connection 131 provided by the control part 1. However, due to the fact that communication control entity 121 is the primary communication control entity, it still performs the call control, and uses communication control entity 124 as a relay to the mobile communication device in service realm 106. A control mechanism of this type is from GSM architecture, in which case the primary communication control entity 121 is referred to as an anchor MSC, and the secondary communication control entity 124 is referred to as a relay MSC." (para. [0009] of Applicant's application)

"In order to allow for the mobility of mobile communication devices between different service realms, the communication control ... is arranged to be able to conduct a so-called handover procedure between different communication control entities. During an ongoing call communication, the primary call control entity (121 in the above-mentioned example) also controls the handover from one secondary communication control entity to another." (para. [0010])

The previously recited description shows the operation of a mobile, primarily in a GSM network. In the Applicant's present invention the communication control entity (e.g., the random MSC) acts as a primary communication control entity in a pool of communication control entities (e.g., an MSC pool). A mobile unit moving within the MSC pool, connected to a primary MSC via a secondary MSC, in a handoff procedure, requests a new secondary MSC to connect to the communication control entity (primary MSC). The communication control entity of the Applicant's invention removes a current secondary entity (first secondary MSC of the MSC pool) and replaces (in a handoff) with a second entity (second secondary MSC) and communicates with the mobile directly through the second entity.

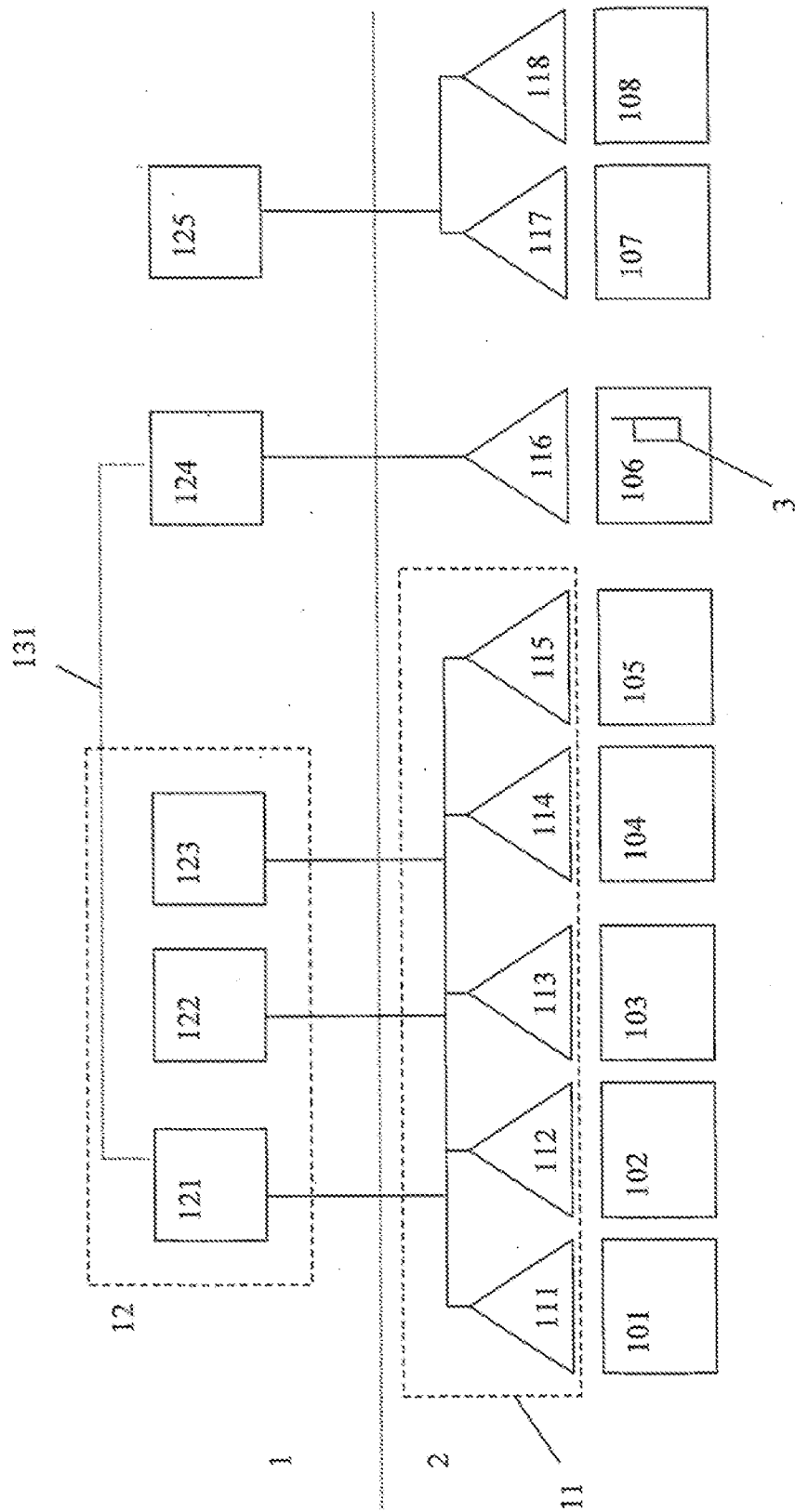
The pertinent elements of claim 1 (claims 5 and 6 having similar limitations are analogous to claim 1) that are missing from the prior art are emphasized in claim 1 below.

1. (Previously Presented) A method of controlling a communication control entity in a communication control part of a mobile communication network that comprises a communication control part and an access part, said communication control entity acting as a primary communication entity for a call communication and belonging to a pool of communication control entities among which no handover procedure is conducted as long as a mobile communication device moves among service realms associated with a predetermined number of access control entities that are connected to said pool, said method comprising the steps:
  - receiving a handover request for removing a first secondary communication control entity from a control process for controlling said call communication and adding a second secondary communication control entity,
  - determining whether said second secondary communication control entity belongs to said pool, and if said second secondary communication control entity belongs to said pool, rejecting said second secondary communication control entity to said control procedure and instead communicating directly by said communication control entity with the

mobile communication device of which said given call communication is being controlled via an access control entity connected to said primary communication control entity without utilizing any secondary communication control entity as a relay." (emphasis added)

The phrase in the preamble of claim 1; "...the communication control entity acting as a primary communication entity for a call communication and belonging to a pool of communication control entities among which no handover procedure is conducted as long as a mobile communication device moves among service realms associated with a predetermined number of access control entities that are connected to said pool..."(emphasis added) is not disclosed in the Ernam reference. (MPEP 2111.02)





**Fig. 1b**

The Ernam reference is cited for disclosing a dispatching MSC, which is compared to Applicant's primary communication control entity. As stated in the Ernam reference Abstract the dispatching MSC provides for "distributing mobile station subscribers ... among the pool of mobile switching centers" (Abstract). Ernam also discloses the dispatching MSC as being positioned between a base station subsystem and a pool of MSCs (Abstract, Figure 3) and distributing mobile stations to MSCs in the MSC pool. Also, the Ernam reference discloses that the pool of MSCs communicate with a base station system through the special dispatching MSC (see col. 6, lines 7-20 and FIG. 5), which also departs from the Applicant's present invention.

As an example, the Ernam reference discloses an incoming mobile requiring an inter-MSC handover. The Ernam dispatcher MSC decides which MSC in the pool serves the mobile. Then, the dispatcher MSC distributes the mobile from one MSC to another in the MSC pool as required. There is no removal of a first secondary control entity (secondary MSC) and replacing the first secondary control entity with a second secondary control entity (second secondary MSC) in the Ernam reference. Ernam only discloses a pool of MSC's in which the mobile-MSC connections are "managed" via a specific, dispatcher MSC. This is in contrast to the Applicant's present invention.

In claim 1 the following element (the emphasized portion) is not found in Ernam (as are similar limitations in claims 5 and 6).

"...rejecting said second secondary communication control entity to said control procedure and instead communicating directly by said communication control entity with the mobile communication device...".

As described in previous responses to rejection, the Applicant's invention relates to a method of controlling a communication control entity. The communication control entity acts as a primary communication control entity and is a part of a pool of communication control entities (MSC pool). When the primary communication control entity receives a request for adding a new, secondary communication control entity (a relay MSC) to the overall control procedure, the primary control entity determines whether the requested new secondary communication control entity is a part of the pool or not. If it is a part of the pool, then the primary communication control entity

establishes a "direct connection ... without using another communication control entity" (see abstract and page 10, line 32- page 11, line 2 of the Applicant's specification).

The control entity (the primary MSC) of the Applicant's invention removes a current secondary entity (first secondary MSC) and replaces (handoff) with a second entity (second secondary MSC) and communicates with the mobile directly through the second entity (second secondary MSC).

Regarding the second element of claim 1 (similar limitations in claims 5 and 6) that is missing from the Ernam reference: "...a handover request for removing a first secondary communication control entity from a control process for controlling said call communication and adding a second secondary communication control entity....". If the new (second) secondary entity is part of the MSC pool, the primary entity designates and establishes direct communication with the new secondary entity without involving the original, or first secondary entity (see Abstract, page 10, line 32 - page 11, line 29 of the Applicant's specification), thus avoiding an unnecessary handoff procedure.

Contrary to the Examiner's statement that all elements are disclosed in the Ernam reference, the phrase in the preamble which limits the structure of the claimed invention to a mobile moving within an MSC pool and both limitations regarding the second secondary communication control limitation are not disclosed. So, the rejection is unsupported by the art and should be withdrawn.

**CONCLUSION**

For all of the foregoing reasons, it is respectfully submitted that claims 1-3, and 5-6 be allowed. A prompt notice to that effect is earnestly solicited.

Respectfully submitted,

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Date: August 26, 2011

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## **VIII. Claims Appendix.**

### **Listing of Claims:**

1. (Previously Presented) A method of controlling a communication control entity in a communication control part of a mobile communication network that comprises a communication control part and an access part, said communication control entity acting as a primary communication entity for a call communication and belonging to a pool of communication control entities among which no handover procedure is conducted as long as a mobile communication device moves among service realms associated with a predetermined number of access control entities that are connected to said pool, said method comprising the steps:

receiving a handover request for removing a first secondary communication control entity from a control process for controlling said call communication and adding a second secondary communication control entity,

determining whether said second secondary communication control entity belongs to said pool, and if said second secondary communication control entity belongs to said pool, rejecting said second secondary communication control entity to said control procedure and instead communicating directly by said communication control entity with the mobile communication device of which said given call communication is being controlled via an access control entity connected to said primary communication control entity without utilizing any secondary communication control entity as a relay.

2. (Previously Presented) The method of claim 1, wherein said primary communication control entity determines whether said second secondary communication control entity belongs to said pool by determining an identifier of said second secondary communication control entity from said handover request and comparing said identifier with a list of identifiers of communication control entities belonging to said pool.

3. (Previously Presented) The method of claim 1, wherein said primary communication control entity determines whether said second secondary communication control entity belongs to said pool by determining an identifier of an access control entity connected to said second secondary communication control entity from said handover request and comparing said identifier with a list of identifiers of access control entities belonging to said predetermined number of access control entities.

4. (Canceled)

5. (Previously Presented) A communication control entity for a communication control part of a mobile communication network that comprises said a communication control part and an access part, said communication control entity belonging to a pool of communication control entities among which no handover procedure is conducted as long as a mobile communication device moves among service realms associated with a predetermined number of access control entities that are connected to said pool, and being arranged to act as a primary communication entity for a given call communication, wherein said communication control entity comprises

a processor, which, when said communication control entity is acting as a primary communication control entity and when a handover request for removing a first secondary communication control entity from the control process and adding a second secondary communication control entity is received, the processor is arranged to determine whether said second secondary communication control entity belongs to said pool, and if said second secondary communication control entity belongs to said pool, controlling said communication control entity to directly communicate by said communication control entity with the mobile communication device of which said given call communication is being controlled via an access control entity connected to said communication control entity without utilizing any secondary communication control entity as a relay.

6. (Previously Presented) A system for controlling a communication control entity in a mobile communication network, the system comprising:

a communication control part having a pool of communication control entities;

a mobile communication device moving among service realms associated with a predetermined number of access control entities that connect to the pool;

a primary communication control entity of the pool of communication control entities that controls a call by the mobile communication device in the mobile communication network;

wherein the primary communication control entity, upon receiving a handover request for removing a first secondary communication control entity from a control process of the call and adding a second secondary communication control entity, having:

means for determining whether the second secondary communication entity belongs to the pool; and

upon determining that the second secondary communication control entity belongs to the pool, means for communicating directly by the primary communication control entity with the mobile communication device via an access control entity connected to the communication control entity without utilizing any secondary communication control entity as a relay.

**IX. Evidence Appendix.**  
NONE



**X. Related Proceedings Appendix.**

Prior Appeal Brief filed January 18, 2011

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Applicant:	Santeri Anttalainen, et al.	§	Group Art Unit:	2617
		§		
Application No:	10/595,140	§	Examiner:	Manoharan, Muthuswamy Ganapathy
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Date: January 18, 2011

Name: Melissa Rhea

Signature: /Melissa Rhea/

**APPEAL BRIEF**

This Brief is submitted in connection with the decision of the Primary Examiner set forth in the Official Action dated June 8, 2004 (Paper No/Mail Date 20100812), having rejected claims 1-3, 5 and 6 at least twice, which are all of the pending claims in this application.

The Commissioner is hereby authorized to charge any appropriate fees under 37 USC §41(6)(B) that may be required by this paper, and to credit any overpayment, to Deposit Account No. 50-1379.

**I. Real Party in Interest**

The real party in interest is Telefonaktiebolaget LM Ericsson, a Swedish corporation, with its principal office at SE-164 83 Stockholm, Sweden.

**II. Related Appeals and Interferences**

To the best of the knowledge of the undersigned, there are no related appeals and no interferences regarding the above application.

**III. Status of Claims.**

Claims 1-3, 5 and 6 are pending in the present application, which are twice rejected and form the basis for this Appeal. Claims 1-3, 5 and 6, including all amendments to the claims, are attached in the Claims Appendix.

**IV. Status of Amendments.**

No Amendments or responses have been filed subsequent to the non-final rejection dated August 20, 2010. The claims set out in the Claims Appendix include all entered amendments.

**V. Summary of Claimed Subject Matter.**

Claim Element	Specification Reference
1. A method of controlling a communication control entity in a communication control part of a mobile communication network that comprises a communication control part and an access part, said communication control entity acting as a primary communication entity for a call communication and belonging to a pool of communication control entities among which no handover procedure is conducted as long as a mobile communication device moves among service realms associated with a predetermined number of access control entities that are connected to said pool, said	Throughout the Specification, including: page 6, line 1 to page 7, line 7

method comprising the steps:	
receiving a handover request for removing a first secondary communication control entity from a control process for controlling said call communication and adding a second secondary communication control entity	Throughout the Specification, including: page 6, line 1 to page 7, line 7
determining whether said second secondary communication control entity belongs to said pool, and if said second secondary communication control entity belongs to said pool,	Throughout the Specification, including:
rejecting said second secondary communication control entity to said control procedure and instead communicating directly by said communication control entity with the mobile communication device of which said given call communication is being controlled via an access control entity connected to said primary communication control entity without utilizing any secondary communication control entity as a relay.	Throughout the Specification, including: page 6, line 1 to page 7, line 7

Claim Element	Specification Reference
5. (Previously Presented) A communication control entity for a communication control part of a mobile communication network that comprises said a communication control part and an access part, said communication control entity belonging to a pool of communication control entities among which no handover procedure is conducted as long as a mobile communication device moves among service realms associated with a predetermined number of access control entities that are connected to said pool, and being arranged to act as a primary communication entity for a given call communication, wherein said communication control entity comprises	Throughout the Specification, including: page 7, line 26 through page 8, line 12
a processor, which, when said communication control entity is acting as a primary communication control entity and when a handover request for removing a first secondary communication control entity from	Throughout the Specification, including: page 7, line 26 through page 8, line 12

the control process and adding a second secondary communication control entity is received, the processor is arranged to	
determine whether said second secondary communication control entity belongs to said pool, and if said second secondary communication control entity belongs to said pool, controlling said communication control entity to directly communicate by said communication control entity with the mobile communication device of which said given call communication is being controlled via an access control entity connected to said communication control entity without utilizing any secondary communication control entity as a relay.	Throughout the Specification, including: page 7, line 26 through page 8, line 12

Claim Element	Specification Reference
6. (Previously Presented) A system for controlling a communication control entity in a mobile communication network, the system comprising:	Throughout the Specification, including: page 7, line 26 through page 8, line 12; page 8, lines 14-31
a communication control part having a pool of communication control entities;	Throughout the Specification, including: page 7, line 26 through page 8, line 12; page 8, lines 14-31
a mobile communication device moving among service realms associated with a predetermined number of access control entities that connect to the pool;	Throughout the Specification, including: page 7, line 26 through page 8, line 12; page 8, lines 14-31
a primary communication control entity of the pool of communication control entities that controls a call by the mobile communication device in the mobile communication network; wherein the primary communication control entity, upon receiving a handover request for removing a first secondary communication control entity from a control process of the call and adding a second secondary communication control entity, having:	Throughout the Specification, including: page 7, line 26 through page 8, line 12; page 8, lines 14-31
means for determining whether the second secondary communication entity belongs to the pool; and	Throughout the Specification, including: page 7, line 26 through page 8, line 12; page 8, lines 14-31

upon determining that the second secondary communication control entity belongs to the pool, means for communicating directly by the primary communication	Throughout the Specification, including: page 7, line 26 through page 8, line 12; page 8, lines 14-31
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The specification references listed above are provided solely to comply with the USPTO's regulations regarding appeal briefs. The use of such references should not be interpreted to limit the scope of the claims to such references or to limit the scope of the claimed invention in any manner.

## **VI. Grounds of Rejection to be Reviewed on Appeal.**

### **Issue**

The only issue presented for this appeal is whether claims 1-3, 5 and 6 are properly rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 6,097,951 to Ernam et al (hereinafter Ernam).

## **VII. Argument**

Claims 1-3, 5 and 6 are not anticipated by Ernam under 35 U.S.C. § 102(b):

The Examiner, in a final office action dated November 11, 2008, and an Advisory Action dated February 4, 2009, rejected the current claims as being unpatentable over the Ernam reference in view of Brudos, et al. (hereinafter Brudos) (US 6505050). In response to the Advisory Action a Pre-Appeal Brief was filed, dated March 12, 2009 and a decision was received June 25, 2010, indicating that the prosecution was reopened and a new Office Action was to be mailed. The new, Non-Final Office Action, dated August 17, 2010 was subsequently mailed to the Applicant rejecting the claims under 35 U.S.C. § 102(a) as being anticipated by the Ernam reference. However, as noted above, in the previous office action all the claims were rejected as being obvious over Ernam in view of the Brudos reference.

After reviewing the current rejection, the Applicant respectfully submits that the Examiner has not provided a prima facie case of anticipation as required in MPEP 2131. that is, all the elements of a claim must be found in a single prior art reference.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claims.

The Applicant respectfully asserts that there is insufficient support for the rejection of independent claims 1, 5, 6 and dependent claims 2 and 3. The Applicant believes the Examiner has at least failed to provide prior art that teaches or suggests all of the claim elements in the independent claims.

The Applicant's invention relates to avoiding unnecessary handoff procedures by controlling a communication control entity (a random MSC in a pool of MSCs). Previous procedures operated as depicted in Figure 1a and 1b of the present invention. Referring to the Specification, the Applicant uses Figure 1b to illustrate operation of handoffs in MSC pools. "Figure 1b shows an example where mobile telephone 3 has moved to service realm 106, which is associated with access control entity 116. Access control entity 116 is connected to communication control entity 124 via a connection 131 provided by the control part 1. However, due to the fact that communication control entity 121 is the primary communication control entity, it still performs the call control, and uses communication control entity 124 as a relay to the mobile communication device in service realm 106. A control mechanism of this type is from GSM architecture, in which case the primary communication control entity 121 is referred to as an anchor MSC, and the secondary communication control entity 124 is referred to as a relay MSC." (para. [0009] of Applicant's application)

"In order to allow for the mobility of mobile communication devices between different service realms, the communication control ... is arranged to be able to conduct a so-called handover procedure between different communication control entities. During an ongoing call communication, the primary call control entity (121 in the above-mentioned example) also controls the handover from one secondary communication control entity to another." (para. [0010])

The previous description shows the operation of a mobile, primarily in a GSM network. In the Applicant's present invention the communication control entity (e.g., a random MSC) acts as a primary communication control entity in a pool of communication control entities (e.g., an MSC pool). A mobile unit moving within the MSC pool, connected to a primary MSC via a secondary MSC, in a handoff procedure, requests a new secondary MSC to connect to the communication control entity (primary MSC). The communication control entity of the Applicant's invention removes a current secondary entity (first secondary MSC of the MSC pool) and replaces (in a handoff) with a second entity (second secondary MSC) and communicates with the mobile directly through the second entity.

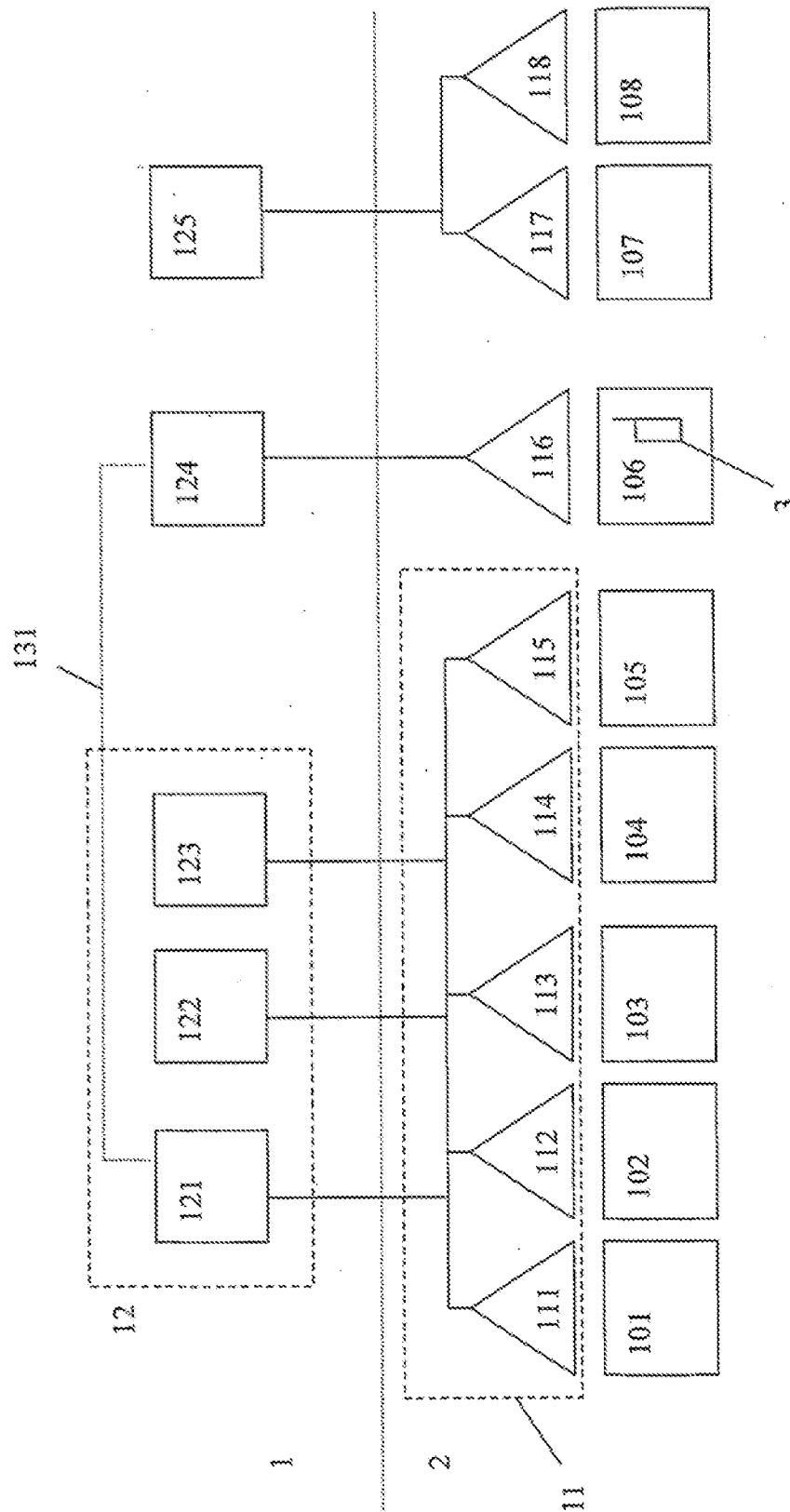
The pertinent elements of claim 1 (claims 5 and 6 having similar limitations are analogous to claim 1) that are missing from the prior art are emphasized in claim 1 below.

1. (Previously Presented) A method of controlling a communication control entity in a communication control part of a mobile communication network that comprises a communication control part and an access part, said communication control entity acting as a primary communication entity for a call communication and belonging to a pool of communication control entities among which no handover procedure is conducted as long as a mobile communication device moves among service realms associated with a predetermined number of access control entities that are connected to said pool, said method comprising the steps:
  - receiving a handover request for removing a first secondary communication control entity from a control process for controlling said call communication and adding a second secondary communication control entity,
  - determining whether said second secondary communication control entity belongs to said pool, and if said second secondary communication control entity belongs to said pool, rejecting said second secondary communication control entity to said control procedure and instead communicating directly by said communication control entity with the mobile communication device of which said given call communication is being controlled via an access control entity connected to said primary communication control entity without utilizing any secondary communication control entity as a relay." (emphasis added)

The phrase in the preamble of claim 1; "...the communication control entity acting as a primary communication entity for a call communication and belonging to a pool of communication control entities among which no handover procedure is conducted as



long as a mobile communication device moves among service realms associated with a predetermined number of access control entities that are connected to said pool...(emphasis added) is not disclosed in the Ernam reference. (MPEP 2111.02)



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The Ernam reference is cited for disclosing a dispatching MSC, which is compared to Applicant's primary communication control entity. As stated in the Ernam reference Abstract the dispatching MSC provides for "distributing mobile station subscribers ... among the pool of mobile switching centers" (Abstract). Ernam also discloses the dispatching MSC as being positioned between a base station subsystem and a pool of MSCs (Abstract, Figure 3) and distributing mobile stations to MSCs in the MSC pool. Also, the Ernam reference discloses that the pool of MSCs communicate with a base station system through the special dispatching MSC (see col. 6, lines 7-20 and FIG. 5), which also departs from the Applicant's present invention.

As an example, the Ernam reference discloses an incoming mobile requiring an inter-MSC handover. The Ernam dispatcher MSC decides which MSC in the pool serves the mobile. Then, the dispatcher MSC distributes the mobile from one MSC to another in the MSC pool as required. There is no removal of a first secondary control entity (secondary MSC) and replacing the first secondary control entity with a second secondary control entity (second secondary MSC) in the Ernam reference. Ernam only discloses a pool of MSC's in which the mobile-MSC connections are "managed" via a specific, dispatcher MSC. This is in contradiction to the Applicant's present invention.

In claim 1 the following element (the emphasized portion) is not found in Ernam (as are similar limitations in claims 5 and 6).

"...rejecting said second secondary communication control entity to said control procedure and instead communicating directly by said communication control entity with the mobile communication device...".

As described in previous responses to rejection, the Applicant's invention relates to a method of controlling a communication control entity. The communication control entity acts as a primary communication control entity and is a part of a pool of communication control entities (MSC pool). When the primary communication control entity receives a request for adding a new secondary communication control entity (relay MSC) to the overall control procedure, the primary control entity determines whether the requested new secondary communication control entity is a part of the pool or not. If it is a part of the pool, then the primary communication control entity

establishes a direct connection ... without using another communication control entity (see abstract and page 10, line 32- page 11, line 2 of the Applicant's specification).

The control entity (the primary MSC) of the Applicant's invention removes a current secondary entity (first secondary MSC) and replaces (handoff) with a second entity (second secondary MSC) and communicates with the mobile directly through the second entity (second secondary MSC).

Regarding the second element of claim 1 (similar limitations in claims 5 and 6) that is missing from the Ernam reference: "...a handover request for removing a first secondary communication control entity from a control process for controlling said call communication and adding a second secondary communication control entity....". If the new (second) secondary entity is part of the MSC pool, the primary entity designates and establishes direct communication with the new secondary entity without involving the original, or first secondary entity (see Abstract, page 10, line 32 - page 11, line 29 of the Applicant's specification), thus avoiding an unnecessary handoff procedure.

Contrary to the Examiner's statement that all elements are disclosed in the Ernam reference, the phrase in the preamble which limits the structure of the claimed invention to a mobile moving within an MSC pool and both limitations regarding the second secondary communication control limitation are not disclosed. So, the rejection is unsupported by the art and should be withdrawn.

**CONCLUSION**

For all of the foregoing reasons, it is respectfully submitted that claims 1-3, 5 and 6 be allowed. A prompt notice to that effect is earnestly solicited.

Respectfully submitted,

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## **VIII. Claims Appendix.**

### **Listing of Claims:**

1. (Previously Presented) A method of controlling a communication control entity in a communication control part of a mobile communication network that comprises a communication control part and an access part, said communication control entity acting as a primary communication entity for a call communication and belonging to a pool of communication control entities among which no handover procedure is conducted as long as a mobile communication device moves among service realms associated with a predetermined number of access control entities that are connected to said pool, said method comprising the steps:

receiving a handover request for removing a first secondary communication control entity from a control process for controlling said call communication and adding a second secondary communication control entity,

determining whether said second secondary communication control entity belongs to said pool, and if said second secondary communication control entity belongs to said pool, rejecting said second secondary communication control entity to said control procedure and instead communicating directly by said communication control entity with the mobile communication device of which said given call communication is being controlled via an access control entity connected to said primary communication control entity without utilizing any secondary communication control entity as a relay.

2. (Previously Presented) The method of claim 1, wherein said primary communication control entity determines whether said second secondary communication control entity belongs to said pool by determining an identifier of said second secondary communication control entity from said handover request and comparing said identifier with a list of identifiers of communication control entities belonging to said pool.

3. (Previously Presented) The method of claim 1, wherein said primary communication control entity determines whether said second secondary communication control entity belongs to said pool by determining an identifier of an access control entity connected to said second secondary communication control entity from said handover request and comparing said identifier with a list of identifiers of access control entities belonging to said predetermined number of access control entities.

4. (Canceled)

5. (Previously Presented) A communication control entity for a communication control part of a mobile communication network that comprises said a communication control part and an access part, said communication control entity belonging to a pool of communication control entities among which no handover procedure is conducted as long as a mobile communication device moves among service realms associated with a predetermined number of access control entities that are connected to said pool, and being arranged to act as a primary communication entity for a given call communication, wherein said communication control entity comprises

a processor, which, when said communication control entity is acting as a primary communication control entity and when a handover request for removing a first secondary communication control entity from the control process and adding a second secondary communication control entity is received, the processor is arranged to determine whether said second secondary communication control entity belongs to said pool, and if said second secondary communication control entity belongs to said pool, controlling said communication control entity to directly communicate by said communication control entity with the mobile communication device of which said given call communication is being controlled via an access control entity connected to said communication control entity without utilizing any secondary communication control entity as a relay.

6. (Previously Presented) A system for controlling a communication control entity in a mobile communication network, the system comprising:

a communication control part having a pool of communication control entities;

a mobile communication device moving among service realms associated with a predetermined number of access control entities that connect to the pool;

a primary communication control entity of the pool of communication control entities that controls a call by the mobile communication device in the mobile communication network;

wherein the primary communication control entity, upon receiving a handover request for removing a first secondary communication control entity from a control process of the call and adding a second secondary communication control entity, having:

means for determining whether the second secondary communication entity belongs to the pool; and

upon determining that the second secondary communication control entity belongs to the pool, means for communicating directly by the primary communication control entity with the mobile communication device via an access control entity connected to the communication control entity without utilizing any secondary communication control entity as a relay.



**IX. Evidence Appendix.**  
NONE

- X. Related Proceedings Appendix.**  
NONE